

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for preparing a water soluble ~~fertilisers~~ fertilizer in the form of prill ~~granules or prills~~ comprising as ~~fertilising elements~~ nitrogen, phosphorus and potassium ~~Nitrogen, Phosphor and Potassium~~, characterised in that it comprises the following phases comprising:

a. solubilisation in water of salts containing the fertilising elements of nitrogen, phosphorus and potassium ~~Nitrogen, Phosphor, and Potassium~~ to form a first solution, said solution comprising a fraction of non soluble solids in suspension;

b. separation from ~~the said~~ solution obtained during ~~the phase a)~~ of the fraction of non soluble solids in suspension, thus obtaining a solution free of solids in suspension having a water content not exceeding 80% by weight;

c. concentrating the solution free of solids in suspension ~~obtained from the phase b)~~ until obtaining a solution of molten salts having a water content not exceeding 5% by weight; and

d. cooling the solution of salt having a water content not exceeding 5% by weight ~~obtained from the phase c)~~ until obtaining ~~granules or prills~~.

2. (currently amended) The method as claimed in claim 1, ~~wherein characterised in that~~ the nitrogen salt of the ~~Nitrogen fertilising element solubilised during the phase a)~~ is ammonium nitrate.

3. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein the phosphorus salt of the ~~Phosphor fertilising element solubilised during the phase a)~~ is mono-ammonium phosphate.

4. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein the potassium salt of the ~~Potassium fertilising element solubilised during the phase a)~~ is potassium nitrate.

5. (canceled)

6. (canceled)

7. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein during the said solubilisation phase a) ~~also one or more soluble salts are dissolved, containing nutrients selected from the group~~

consisting of salts of S, Ca, Mg, Fe, Mn, Zn, Cu, B and Mo are
also dissolved.

8. (currently amended) The method as claimed in
claim 1, ~~characterised in that wherein during the said~~
~~solubilisation phase a) also~~ one or more soluble salts
~~containing fertilising elements selected from the group~~
consisting of salts of nitrogen, phosphor and potassium
~~Nitrogen, Phosphor and Potassium are~~ also dissolved.

9. (currently amended) The method as claimed in
claim 1, ~~characterised in that it comprises a further~~
comprising
~~another solubilisation phase a') separate from the~~
~~phase a) during which one or more soluble salts containing~~
~~nutrients selected from the group consisting of salts of~~ S,
Ca, Mg, Fe, Mn, Zn, Cu, B and Mo are dissolved to provide a
second solution, ~~and a mixing phase during which, before the~~
~~concentration phase c),~~
mixing together the first and second solutions
~~obtained respectively from the phase b) and from the phase a')~~
are mixed together before said concentration.

10. (currently amended) The method as claimed in
claim 1, ~~characterised in that it comprises a further~~
comprising

~~another solubilisation phase a')~~ ~~separate from the~~
~~phase a)~~ during which one or more soluble salts containing
~~fertilising elements selected from the group consisting of~~
~~salts of Nitrogen, Phosphorus and Potassium nitrogen,~~
~~phosphorus and potassium are dissolved to provide a second~~
~~solution, and~~

~~mixing together a mixing phase during which, before~~
~~the concentration phase c), the first and second solutions~~
~~obtained respectively from the phase b) and from the phase a)~~
~~are mixed together before said concentration.~~

11. (currently amended) The method as claimed in
claim 1, ~~characterised in that the wherein~~

~~during the said solubilisation phase a)~~ a first
portion of one or more soluble salts ~~containing nutrients~~
selected from the group consisting of salts of S, Ca, Mg, Fe,
Mn, Zn, Cu, B and Mo is dissolved,

~~while a second portion of said soluble salts is~~
~~dissolved during the a second solubilisation phase a')~~
~~separate from the phase a),~~

~~said solutions obtained respectively therefrom from~~
~~the phases b) and a') then being mixed together[[,]] before~~
~~the concentration phase c).~~

12. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein _____ ~~during the said solubilisation phase a)~~ a first portion of one or more soluble salts ~~containing fertilising elements selected from the group consisting of~~ salts of a nitrogen, phosphorus and potassium ~~Nitrogen, Phosphor and Potassium~~ is dissolved, _____ while a second portion of said soluble salts is dissolved during the ~~a second solubilisation phase a')~~ separate from the phase a), _____ said solutions obtained respectively therefrom ~~from the phases b) and a')~~ then being mixed together ~~[[,]]~~ before the said concentration phase e).

13. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein _____ ~~after the phase b)~~ said separation, one or more soluble salts ~~containing the nutrients selected in~~ from the group consisting of salts of S, Ca, Mg, Fe, Mn, Zn, Cu, B and Mo are dissolved directly in the said solution free of solids in suspension.

14. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein

~~_____ after the phase b)~~ said separation, one or more soluble salts ~~containing the fertilising elements selected in~~ from the group consisting of salts of nitrogen, phosphorus and potassium ~~Nitrogen, Phosphorus and Potassium~~ are dissolved directly in ~~the~~ said solution free of solids in suspension.

15. (currently amended) The method as claimed in claim 1, ~~characterised in that wherein~~ _____ one or more soluble salts containing the nutrients selected from the group consisting of salts of S, Ca, Mg, Fe, Mn, Zn, Cu, B and Mo, are in part dissolved during ~~the~~ said solubilisation phase ~~and in part solubilised during the phase obtained in said solution free of solids in suspension after the separation phase b).~~

16. (currently amended) The method as claimed in claim 1, ~~characterised in that wherein~~ _____ one or more soluble salts containing the fertilising ~~elements selected from the group consisting of NPK~~ salts of nitrogen, phosphorus and potassium, are in part dissolved during ~~the~~ said solubilisation phase ~~and in part solubilised during the phase obtained after the separation phase b) in~~ said solution free of solids in suspension.

17. (currently amended) The method as claimed in claim 1, ~~characterised in that~~ wherein

one or more soluble salts ~~containing nutrients~~
selected from the group consisting of salts of S, Ca, Mg, Fe,
Mn, Zn, Cu, B and Mo are divided into ~~three~~ first, second and
third flows, ~~whereof respectively the and~~
 said first one-flow is added ~~to the~~ during said
solubilisation-phase a),
 the second one-flow is dissolved separately and
added ~~to the~~ after said solubilisation, ~~phase a')~~ and
 the third one-flow is solubilised directly to the
said solution obtained from phase b) free of solids in
suspension.

18. (currently amended) A method as claimed in claim
1, ~~characterised in that~~ wherein

 one or more soluble salts ~~containing fertilising~~
~~elements~~ selected from the group consisting of NPK salts of
nitrogen, phosphorus and potassium are divided into three
first, second and third flows, and
 said ~~whereof respectively the~~ first one-flow is
added ~~to the~~ during said solubilisation-phase a),
 the second one-flow is dissolved separately and
added ~~to the~~ after said solubilisation, ~~phase a')~~ and

~~_____~~ the third ~~one-flow~~ is solubilised directly to the
~~said solution obtained from phase b)~~ free of solids in
suspension.

19. (currently amended) A water soluble NPK
fertiliser in the form of ~~granules or prills~~ having a
solubility in water of at least 99% by weight and a prill
diameter lower than 4 mm ~~comprising as fertilising elements~~
~~Nitrogen, Phosphorus and Potassium obtained according to a~~
~~method comprising the following phases:~~

~~a. solubilisation in water of salts containing the~~
~~fertilising elements of Nitrogen, Phosphor, and Potassium to~~
~~form a solution, said solution comprising a fraction of non~~
~~soluble solids in suspension;~~

~~b. separation from the solution obtained during the~~
~~phase a) of the fraction of non soluble solids in suspension,~~
~~thus obtaining a solution free of solids in suspension;~~

~~c. concentrating the solution free of solids in~~
~~suspension obtained from the phase b) until obtaining a~~
~~solution; and~~

~~d. cooling the solution obtained from the phase c)~~
~~until obtaining granules or prills.~~

20-31. (canceled)

32. (new) A water soluble fertilizer in the form of prills made by the method of claim 7, and

having a solubility in water of at least 99% by weight with a prill diameter less than 4 mm.

33. (new) A water soluble fertilizer in the form of prills made by the method of claim 8, and

having a solubility in water of at least 99% by weight with a prill diameter less than 4 mm.

34. (new) A water soluble fertilizer in the form of prills made by the method of claim 9, and

having a solubility in water of at least 99% by weight with a prill diameter less than 4 mm.

35. (new) A water soluble fertilizer in the form of prills made by the method of claim 10, and

having a solubility in water of at least 99% by weight with a prill diameter less than 4 mm.

36. (new) A water soluble fertilizer in the form of prills made by the method of claim 11, and

having a solubility in water of at least 99% by weight with a prill diameter less than 4 mm.

37. (new) A water soluble fertilizer in the form of prills made by the method of claim 12, and

Appln. No. 09/869,525
Amd. dated November 5, 2003
Reply to Office Action of May 19, 2003

having a solubility in water of at least 99% by
weight with a prill diameter less than 4 mm.